

adequately but not over described ; while the results, instead of being merely set forth by the teacher, have to be looked for and thought about by the student himself.

Faults there are, and probably must be in such a book, and we could criticise somewhat severely the meagre plan of a physiological laboratory submitted on pp. 29-30, and the outline course of study {of structure and of the properties of protoplasm ; but against these deficiencies may fairly be set some neat suggestions and devices, as, for example, those on comparative polygons (p. 15) and for experiments on germination, root-pressure, geotropism, &c. We do not like such terms or expressions as "borrowable" (p. 58), "diagramming" (p. 75), "other tropisms" (p. 132), and quite fail to understand how it can be said (p. 135) of locomotion that it is "almost purely ecological, with but a slight basis in pure physiology."

Nor can we pass over the following without protest : "5. What is the chemical composition of living protoplasm ?" (p. 52). It is obvious on reflection that we know nothing of the chemical composition of *living* protoplasm.

We are also struck with the untidy appearance of some of the experiments—*e.g.* Fig. 13—though not all.

The information (pp. 71-72) regarding nutritive solutions, and (p. 100) water cultures is too meagre ; and to say of absorption (of lithium citrate) "But perhaps such absorption is too obvious to need special experiment" is a flagrant departure from the excellent principles inculcated elsewhere.

On the other hand, surely the following precaution with the clinostat is of the order of trivialities : "The clock will need winding once in two days, and while the cork is removed for the purpose, it should be kept slowly revolving in the hands" (p. 121).

A clearly written, excellently printed and compact little handbook for the beginner in laboratory practice has long been wanted, and Dr. Chamberlain's volume comes nearer to satisfying the want than many. But it has, in our opinion, one fundamental drawback which would spoil its claims to be—what it might have been—the elementary laboratory book of methods for botanists, namely, in attempting to be both a guide to laboratory methods and a handbook of exercises in plant-histology, each of its double functions being too incomplete in treatment. For instance, the meagre description of the paraffin bath on p. 4 should either be clearer or omitted altogether, and the practical value of the curious formulæ for alcohols on p. 9 seems to us not obvious. On the other hand, the recommendation to inoculate a mouse with *Anthrax* (p. 76) can hardly apply to an elementary student, and several of the studies—*e.g.* of *Xylaria* (p. 83), *Marsilea* (p. 111), &c.—seem to us both unsuitable and inadequate in treatment. The poor photographic figures of nuclei in *Lilium* are also unnecessary.

In spite of these criticisms the first half of the book contains many useful hints on methods, and we should like to see it expanded, to the ultimate exclusion of the second half.

Dr. Atkinson's little book has a wealth of excellent illustrations and some ideas of value to the teacher and student of purely elementary botany or "Nature study," but it only brings out once more the clear issue that all

such teaching depends for its efficiency on the genius of the individual teacher. In the right hands, Chapters xv.-xvii., for instance, dealing with the formation of starch in the living plant, will assume delightful aspects. We do not doubt that this would be the case in the hands of the author, but even his simple style and ingenious illustrations show only the more clearly that all depends on the personality of the teacher in these fundamental matters. The section on "Battles of Plants in the World" is excellent reading, but we doubt if children could be made to appreciate the subject except in the open air and in the company of the ideal teacher, who is rarely or never present with the book.

TRUTH AND ERROR IN VON KÖLLIKER.

A. von Kölliker's Stellung zur Descendenzlehre. Ein Beitrag zur Geschichte moderner Naturphilosophie. Von Dr. Remigius Stözlé. Pp. 172. (Aschendorffsche Buchhandlung, Münster i. W., 1901). Price Mk. 2.

DR. REMIGIUS STÖZLÉ, professor of philosophy in the University of Würzburg, has paid his illustrious scientific colleague A. von Kölliker a great compliment. He has dissected Kölliker's works, and separated the wheat from the chaff, as he did not long ago in the case of Karl Ernst von Baer. The analysis of nine important works, from an article on Darwinism in 1864 to the veteran's interesting "Erinnerungen" in 1899, is careful and scholarly, and the critical exposition is arranged so clearly that the reader can find out at once what Kölliker thought about variation, heredity, natural selection, or the like. While the author has very strong convictions, he expresses these with a dignified restraint, and says nothing harder against naturalists than that it is a pity to be too busy to take advantage of philosophical discipline. For those who are fond of argument the book will serve as an interesting introduction to the problems of organic evolution.

Prof. A. von Kölliker's contributions to biology—through more than half a century—have been many and varied ; indeed, the magnitude of his work, alike in quantity and quality, is a lasting example to the spirit of research ; and, though it is difficult always to read with patience, Stözlé's detection of "fundamental errors" is really part of a tribute to the anatomist's greatness. Is not criticism, after all, the sincerest form of flattery ? But there is, by the way, a lack of discernment or of the sense of humour in placing Profs. Fleischmann and Weismann side by side among those who are responsible for recent "Angriffe oder Verdikte" on Darwinism.

The first great error is a purely mechanical interpretation of nature, the second is a denial of purposive principles, and the third is an evolution theory which is said to leave no rôle for the Creator. In evidence of these hateful heresies there is no lack of citation of chapter and verse ; nor is it to be supposed that the author simply *calls* them "Irrgänge des Denkens" ; he seeks to substantiate his accusations, and to those who agree with him the case will doubtless appear convincing.

But there is a brighter side to the picture ; there is truth as well as error in the writings of Albrecht von Kölliker. Of permanent truth (von bleibender Wahrheit

is his critique of Darwinism ; it has stood the test of time and is now admitted as justified, " and Darwinism, for scientific circles at least, is at its last gasp. Weismann, the toughest champion of Darwinism, can now write over all his works devoted to the rescue of the selection-principle, '*In vanum laboravimus.*' " These are brave words, but the game is " bluff."

A second " permanent truth " expressed by von Kölleker was that organic evolution can only have come about through internal factors, for von Kölleker is one of the many who have groped after " an unknown factor," a " phyletische Lebenskraft." It has often seemed like a clue, this idea of an internal tendency to progress, but it has not as yet led us anywhere ; and we relapse from obscure talk about " bathmism " into an aetiology like Topsy's " specks I growed." There may be some with the bad taste to prefer Weismann's " germinal selection."

A third " permanent truth " in von Kölleker's position is that " he regarded all theories of descent, including his own, as having only the status of probabilities," and this is to appraise them rightly. In other words, evolution-theories were to him, as to most clear-headed people, simply conceptual formulæ more or less justified by their success in fitting the facts. Here, at least, those who regard von Kölleker's heresies as expressive of a useful scientific method and those who denounce them as errors of judgment, those who stand by the selection-idea and those who think that it has been literally worked to death, may find a provisional peace, until they begin again to try if they cannot get " any forrader."

J. A. T.

OUR BOOK SHELF.

A Treatise on Medical Jurisprudence. By G. V. Poore, M.D., F.R.C.P., Professor of the Principles and Practice of Medicine, University College, London. Pp. xxiv + 533. Eighteen illustrations. (London : John Murray, 1901.)

THE book before us consists essentially of a series of lectures delivered by Dr. Poore at University College during the time when he occupied the chair of medical jurisprudence in that institution ; now that he has passed to another sphere of duties, it is well that his labours as a teacher of this most important subject should endure in the concrete form of a manual. The lectures have been freely edited by himself, and doubtless touched up by others, but in spite of this they remain still essentially lectures, delivered in a pleasant colloquial style ; if from the point of view of highly systematised contents, something by this method has been lost, something has also been gained, in that the volume before us may certainly be designated one of the most readable which it has ever fallen to our lot to peruse.

To turn from the manner of the book to its matter, it is quite impossible in a short notice to do adequate justice to the mass of fact which it contains. The book is not very fully indexed, and to get an adequate idea of its contents the table of contents itself must be read. This consists of a series of detailed chapter headings which are repeated throughout the book at each chapter.

Inter alia we would draw special attention to Chapter ii., which deals with the legal relations of the medical profession. The subject-matter of this chapter, as in many others throughout the book, is elucidated by illustrative cases culled from the records of the Law Courts. Amongst these cases we may mention the Tichborne, Palmer, Lamson and Maybrick cases, each of which is fully de-

scribed under the subject which renders them of permanent interest to the medical jurist. With regard to the toxicological part of the subject, the author adopts the wise method of only dealing with the symptoms produced by, and the detection of, those poisons which have actually been used criminally. An interesting chapter on food-poisoning is, we venture to think, not strictly within the scope of the work. The criminal of to-day is perhaps turning his attention to ptomaines, and it may be that the criminal of the near future will actually employ them. It is only to be hoped that modern chemistry will be equal to the task of their identification. A very useful chapter for the medical practitioner is the one upon insanity, and the one immediately following, upon the legal relations of the insane. In these two chapters he will find full information with regard to what is very often a puzzling subject, viz. what to do and how to do it when one is suddenly called to a case which obviously requires restraint. Is it to be wondered at that the busy medical man has sometimes to be censured for not complying with the law when, as Dr. Poore tersely puts it, the law in question contains more than three hundred sections and clauses, and weighs half a pound ?

The volume concludes with eleven appendices upon various subjects of importance to medical jurists. Amongst these may be mentioned a most interesting appendix (illustrated) by Dr. J. G. Garson upon " The metric and finger-print identification of criminals as carried out at New Scotland Yard."

We may close our remarks by saying that Dr. Poore's book deserves, and will surely have, a very wide circulation, supplementing rather than replacing the more systematised and voluminous works upon this subject.

F. W. T.

Ueber Museen des Ostens der Vereinigten Staaten von Amerika ; Reisetstudien. By A. B. Meyer. Part ii. Illustrated. (Berlin, 1901.)

In this fasciculus the learned Director of the Royal Zoological and Ethnographical Museum of Dresden concludes his interesting account of the museums and libraries of the United States visited during his recent tour. Here we may avail ourselves of the opportunity of correcting a misrepresentation of the author's opinions which unfortunately occurs in our notice of the first portion of his work. Instead of stating that Americans are ahead of us in the matter of museum fittings, Dr. Meyer awards the preeminence in this respect to European institutions, although he is fain to confess that as regards libraries and library installations we are not abreast of America.

In the present part Dr. Meyer discusses the chief public institutions of Chicago connected with art, literature and science, namely, the Field Columbian Museum, the Academy of Sciences, the Historical Society, the Art Institute, the John Crerar, the Newberry, and the Chicago Public Libraries and the University. The Field Columbian Museum, which was opened in August 1893, during the Chicago International Exhibition, under the title of the Columbian Museum of Chicago, owes its existence to private liberality, and in May 1894 was renamed in honour of its founder, Mr. M. Field, of the firm of Marshall Field and Co. On Saturdays and Sundays the Museum is open free to the public, but on other days a small admission fee is charged, although the scholars attending elementary and secondary schools are always admitted without charge. Dr. Meyer furnishes his readers with a plan of the ground floor and another of the galleries, and discusses the general arrangement of the rich collections and the mode of cataloguing. At the conclusion of his article he expresses himself dissatisfied with the building, which he considers inadequate to the contents, urging that if this were remodelled the Museum ought to take rank among the first in the world.